PEDON DESCRIPTION -- NEON Site GRSM

Print Date: Oct 11 2017

Description Date: Oct 12 2016

Describer: Mike Jones

NEON Plot ID: GRSM_001

Site ID: S2016TN155001

Pedon ID: S2016TN155001

Site Note: Lat/Long coordinates were to the SW corner near the electric fence. Located centroid, stayed out of fenced area.; Site # 1 appears to have been sampled right out of the line of the 40M Smapling Zone. Azhimuth puts it at 110 degrees - which is slighty SE of the SW corner.

Pedon Note: Site sampled is different than named the map units' Major Components and may not be a typical inclusion.

Lab Source ID: KSSL

Lab Pedon #: 17N0517

Soil Name as Described/Sampled: Spivey

Classification: Loamy-skeletal, isotic, mesic Typic Humudepts

Soil Name as Correlated:

Classification:

Pedon Type: taxadjunct to the series

Pedon Purpose: laboratory sampling site

Taxon Kind: taxadjunct

Associated Soils: Ditney, Junaluska, Santeetlah, Soco, Spivey

Physiographic Division: Appalachian Highlands

Physiographic Province: Blue Ridge Province

Physiographic Section: Southern section

State Physiographic Area:

Local Physiographic Area: Great Smoky Mountains

Geomorphic Setting: on footslope of base slope of mountainbase of 2 mountain slope
on footslope of base slope of mountainbase of 1 mountains
on footslope of base slope of mountainbase of 3 colluvial apron

Upslope Shape: convex

Cross Slope Shape: linear

Particle Size Control Section: 25 to 100 cm.

Description origin: NASIS

Diagnostic Features: ochric epipedon 0 to 9 cm.
cambic horizon 9 to 80 cm.

Country:

State: Tennessee

County: Sevier

MLRA: 130B -- Southern Blue Ridge

Soil Survey Area: SS0130 -- Blue Ridge MLRA Soil Survey
TN640 -- Great Smoky Mountains National Park, Tennessee and North Carolina
6-WAY -- Waynesville, North Carolina

Map Unit: NtC -- Northcove-Maymead-Nowhere complex, 8 to 15 percent slopes, very stony

Pit Location:

Quad Name: Gatlinburg, Tennessee

Std Latitude: 35.6843889

Std Longitude: -83.5322778

Latitude: 35 degrees 41 minutes 3.80 seconds north

Longitude: 83 degrees 31 minutes 56.20 seconds west

Datum: WGS84

UTM Zone: 17

UTM Easting: 270841 meters

UTM Northing: 3951898 meters

Primary Earth Cover: Tree cover

Secondary Earth Cover: Hardwoods

Existing Vegetation:

Parent Material: coarse-loamy colluvium derived from metasedimentary rock

Bedrock Kind: Metasedimentary rock
Phyllite

Bedrock Depth:

Bedrock Hardness: strongly cemented
moderately cemented

Bedrock Fracture Interval: 45 to less than 100 centimeters
10 to less than 45 centimeters

Surface Fragments: 1.6 percent flat subangular very strongly cemented 380- to 600-millimeter Metasedimentary rock fragments

Description database: KSSL

Cont. Site ID: S2016TN155001 **Pedon ID:** S2016TN155001

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
12.0	511.5	183	12.7	21.9	3.4	1,428	165	well		

A--0 to 9 centimeters (0.0 to 3.5 inches); very dark grayish brown (10YR 3/2) loam; weak fine granular structure; very friable; many medium roots throughout and many fine roots throughout and few coarse roots throughout; 5 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 12%, channers. Converted to 5% Channers. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B".; clear wavy boundary. Lab sample # 17N02662 A--0 to 9 centimeters (0.0 to 3.5 inches); very dark grayish brown (10YR 3/2) loam; weak fine granular structure; very friable; many medium roots throughout and many fine roots throughout and few coarse roots throughout; 5 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 12%, channers. Converted to 5% Channers. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B".; clear wavy boundary. Lab sample # 17N02662

Bw1--9 to 20 centimeters (3.5 to 7.9 inches); yellowish brown (10YR 5/4) loam; weak medium subangular blocky, and weak fine subangular blocky structure; friable; common medium roots throughout and common fine roots throughout and few coarse roots throughout; 2 percent flat subangular very strongly cemented 150 to 380-millimeter Metasedimentary rock fragments and 10 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 18%, channers & Flags. Converted to 10% Channers & 2% Flags. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B".; clear wavy boundary. Lab sample # 17N02663. Horizon has an increase in Clay content (percentage). A number of mountain soils have what has been termed, as a "Clay Bulge" in the upper portion of the "B" Horizon. Depends on where a soil is sampled for Textural Class to determine Bw or Bt. This has been described by NCSU lab as "The minimum expression of an Argillic or the Maximum expression of a Cambic". Bw1--9 to 20 centimeters (3.5 to 7.9 inches); yellowish brown (10YR 5/4) loam; weak medium subangular blocky, and weak fine subangular blocky structure; friable; common medium roots throughout and common fine roots throughout and few coarse roots throughout; 2 percent flat subangular very strongly cemented 150 to 380-millimeter Metasedimentary rock fragments and 10 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 18%, channers & Flags. Converted to 10% Channers & 2% Flags. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B".; clear wavy boundary. Lab sample # 17N02663. Horizon has an increase in Clay content (percentage). A number of mountain soils have what has been termed, as a "Clay Bulge" in the upper portion of the "B" Horizon. Depends on where a soil is sampled for Textural Class to determine Bw or Bt. This has been described by NCSU lab as "The minimum expression of an Argillic or the Maximum expression of a Cambic".

Bw2--20 to 32 centimeters (7.9 to 12.6 inches); dark yellowish brown (10YR 4/4) loam; weak fine subangular blocky structure; friable; few medium roots throughout and common fine roots throughout and few coarse roots throughout; 2 percent flat subangular very strongly cemented 150 to 380-millimeter Metasedimentary rock fragments and 11 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 15%, channers & Flags. Converted to 11% Channers & 2% Flags. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B".; clear wavy boundary. Lab sample # 17N02664 Bw2--20 to 32 centimeters (7.9 to 12.6 inches); dark yellowish brown (10YR 4/4) loam; weak fine subangular blocky structure; friable; few medium roots throughout and common fine roots throughout and few coarse roots throughout; 2 percent flat subangular very strongly cemented 150 to 380-millimeter Metasedimentary rock fragments and 11 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 15%, channers & Flags. Converted to 11% Channers & 2% Flags. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B".; clear wavy boundary. Lab sample # 17N02664

Bw3--32 to 54 centimeters (12.6 to 21.3 inches); yellowish brown (10YR 5/4) channery loam; weak medium subangular blocky, and weak fine subangular blocky structure; friable; few medium roots throughout and common fine roots throughout and few coarse roots throughout; 6 percent flat subangular very strongly cemented 150 to 380-millimeter Metasedimentary rock fragments and 16 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 31%, channers & Flags. Converted to 16% Channers & 6% Flags. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B".; clear wavy boundary. Lab

sample # 17N02665. Horizon has a decrease in Clay content (percentage). This is typical for soils with a Clay Bulge to have a drop of in clay. These are usually described with a Bw Horizon. A number of mountain soils have what has been termed, as a "Clay Bulge" in the upper portion of the "B" Horizon. Depends on where a soil is sampled for Textural Class to determine Bw or Bt. This has been described by NCSU lab as "The minimum expression of an Argillic or the Maximum expression of a Cambic". Bw3--32 to 54 centimeters (12.6 to 21.3 inches); yellowish brown (10YR 5/4) channery loam; weak medium subangular blocky, and weak fine subangular blocky structure; friable; few medium roots throughout and common fine roots throughout and few coarse roots throughout; 6 percent flat subangular very strongly cemented 150 to 380-millimeter Metasedimentary rock fragments and 16 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 31%, channers & Flags. Converted to 16% Channers & 6% Flags. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B".; clear wavy boundary. Lab sample # 17N02665. Horizon has a decrease in Clay content (percentage). This is typical for soils with a Clay Bulge to have a drop of in clay. These are usually described with a Bw Horizon. A number of mountain soils have what has been termed, as a "Clay Bulge" in the upper portion of the "B" Horizon. Depends on where a soil is sampled for Textural Class to determine Bw or Bt. This has been described by NCSU lab as "The minimum expression of an Argillic or the Maximum expression of a Cambic".

BC--54 to 80 centimeters (21.3 to 31.5 inches); yellowish brown (10YR 5/4) very flaggy loam; weak fine subangular blocky structure; very friable; few fine roots throughout; 16 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments and 21 percent flat subangular very strongly cemented 150 to 380-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 52%, channers & Flags. Converted to 21% Flags & 16% Channers. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B". Lab sample # 17N02666 BC--54 to 80 centimeters (21.3 to 31.5 inches); yellowish brown (10YR 5/4) very flaggy loam; weak fine subangular blocky structure; very friable; few fine roots throughout; 16 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments and 21 percent flat subangular very strongly cemented 150 to 380-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 52%, channers & Flags. Converted to 21% Flags & 16% Channers. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B". Lab sample # 17N02666

PEDON DESCRIPTION -- NEON Site GRSM

Print Date: Oct 11 2017
Description Date: Oct 13 2016
Describer: Tiffany Smith
NEON Plot ID: GRSM_002
Site ID: S2016TN155002

Pedon ID: S2016TN155002

Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0518
Soil Name as Described/Sampled: Soco
Classification: Coarse-loamy, mixed, active, mesic Typic Dystrudepts

Soil Name as Correlated:

Classification:
Pedon Type: taxadjunct to the series
Pedon Purpose: laboratory sampling site
Taxon Kind: taxadjunct
Associated Soils: Cheoah, Santeetlah, Spivey
Physiographic Division: Appalachian Highlands
Physiographic Province: Blue Ridge Province

Physiographic Section: Southern section
State Physiographic Area:

Local Physiographic Area: Great Smoky Mountains

Geomorphic Setting: on backslope of side slope of mountainflank, lower third of 2 mountain slope
on backslope of side slope of mountainflank, lower third of 1 mountains
Upslope Shape: linear

Cross Slope Shape: convex

Particle Size Control Section: 25 to 58 cm.

Description origin: NASIS

Diagnostic Features: ochric epipedon 4 to 9 cm.
cambic horizon 9 to 58 cm.

Country:
State: Tennessee
County: Sevier
MLRA: 130B -- Southern Blue Ridge
Soil Survey Area: SS0130 -- Blue Ridge MLRA Soil Survey
TN640 -- Great Smoky Mountains National Park, Tennessee and North Carolina
6-WAY -- Waynesville, North Carolina
Map Unit: SoF -- Soco-Stecoah complex, 30 to 95 percent slopes, stony
Pit Location:
Quad Name: Gatlinburg, Tennessee
Std Latitude: 35.6702500
Std Longitude: -83.5876111

Latitude: 35 degrees 40 minutes 12.90 seconds north
Longitude: 83 degrees 35 minutes 15.40 seconds west
Datum: WGS84
UTM Zone: 17
UTM Easting: 265792 meters
UTM Northing: 3950460 meters

Primary Earth Cover: Tree cover
Secondary Earth Cover: Intermixed conifers and hardwoods
Existing Vegetation:
Parent Material: coarse-loamy creep deposits derived from metasedimentary rock over coarse-loamy residuum weathered from metasedimentary rock and/or coarse-loamy residuum weathered from phyllite
Bedrock Kind: Metasedimentary rock
Phyllite

Bedrock Depth:

Bedrock Hardness: strongly cemented
moderately cemented
Bedrock Fracture Interval: 45 to less than 100 centimeters
10 to less than 45 centimeters
Surface Fragments: 0.1 percent flat subangular very strongly cemented 380- to 600-millimeter Metasedimentary rock fragments

Description database: KSSL

Top Depth (cm)	Bottom Depth (cm)	Restriction Kind	Restriction Hardness
39	58	bedrock, paralithic	Moderately cemented

Cont. Site ID: S2016TN155002 **Pedon ID:** S2016TN155002

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
45.0	692.8	246	12.7	21.9	3.4	1,428	165	well		

Oe--0 to 4 centimeters (0.0 to 1.6 inches); moderately decomposed plant material; Moderately decomposed organic litter and root mat; abrupt smooth boundary.; abrupt smooth boundary. Lab sample # 17N02667 Oe--0 to 4 centimeters (0.0 to 1.6 inches); moderately decomposed plant material; Moderately decomposed organic litter and root mat; abrupt smooth boundary.; abrupt smooth boundary. Lab sample # 17N02667

A--4 to 9 centimeters (1.6 to 3.5 inches); brown (10YR 4/3) exterior loam; weak fine granular structure; very friable; many very fine roots throughout and many fine roots throughout and common coarse roots throughout; 6 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 10%, channers. Converted to 6% Channers. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B".; abrupt wavy boundary. Lab sample # 17N02668 A--4 to 9 centimeters (1.6 to 3.5 inches); brown (10YR 4/3) exterior loam; weak fine granular structure; very friable; many very fine roots throughout and many fine roots throughout and common coarse roots throughout; 6 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 10%, channers. Converted to 6% Channers. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B".; abrupt wavy boundary. Lab sample # 17N02668

Bw1--9 to 24 centimeters (3.5 to 9.4 inches); dark yellowish brown (10YR 4/4) exterior channery loam; weak fine subangular blocky structure; very friable; many very fine roots throughout and few medium roots throughout and many fine roots throughout; 19 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 28%, channers. Converted to 19% Channers. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B".; clear wavy boundary. Lab sample # 17N02669 Bw1--9 to 24 centimeters (3.5 to 9.4 inches); dark yellowish brown (10YR 4/4) exterior channery loam; weak fine subangular blocky structure; very friable; many very fine roots throughout and few medium roots throughout and many fine roots throughout; 19 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 28%, channers. Converted to 19% Channers. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B".; clear wavy boundary. Lab sample # 17N02669

Bw2--24 to 39 centimeters (9.4 to 15.4 inches); dark yellowish brown (10YR 4/6) exterior channery loam; weak medium subangular blocky structure; very friable; few very fine roots throughout and few fine roots throughout and few coarse roots throughout; 3 percent flat subangular very strongly cemented 150 to 380-millimeter Metasedimentary rock fragments and 24 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 43%, channers & Flags. Converted to 24% Channers & 3% Flags. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B".; gradual irregular boundary. Lab sample # 17N02670 Bw2--24 to 39 centimeters (9.4 to 15.4 inches); dark yellowish brown (10YR 4/6) exterior channery loam; weak medium subangular blocky structure; very friable; few very fine roots throughout and few fine roots throughout and few coarse roots throughout; 3 percent flat subangular very strongly cemented 150 to 380-millimeter Metasedimentary rock fragments and 24 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 43%, channers & Flags. Converted to 24% Channers & 3% Flags. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B".; gradual irregular boundary. Lab sample # 17N02670

Cr--39 to 58 centimeters (15.4 to 22.8 inches); bedrock; massive; few fine roots in cracks; Crushes to Loamy Texture Weathered; moderately cemented interbedded metagraywacke and phyllite; crushes to a loamy texture. Lab sample # 17N02671 Cr--39 to 58 centimeters (15.4 to 22.8 inches); bedrock; massive; few fine roots in cracks; Crushes to Loamy Texture Weathered; moderately cemented interbedded metagraywacke and phyllite; crushes to a loamy texture. Lab sample # 17N02671

PEDON DESCRIPTION -- NEON Site GRSM

Print Date: Oct 11 2017
Description Date: Oct 13 2016
Describer: Tiffany Smith
NEON Plot ID: GRSM_003
Site ID: S2016TN155003

Pedon ID: S2016TN155003

Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0519
Soil Name as Described/Sampled: Soco
Classification: Coarse-loamy, mixed, active, mesic Typic Dystrudepts

Soil Name as Correlated:

Classification:
Pedon Type: correlates to named soil
Pedon Purpose: laboratory sampling site
Taxon Kind: series
Associated Soils: Cheoah, Santeetlah, Spivey
Physiographic Division: Appalachian Highlands
Physiographic Province: Blue Ridge Province

Physiographic Section: Southern section
State Physiographic Area:

Local Physiographic Area: Great Smoky Mountains

Geomorphic Setting: on backslope of side slope of mountainflank, lower third of 2 mountain slope
on backslope of side slope of mountainflank, lower third of 1 mountains
Upslope Shape: concave

Cross Slope Shape: linear

Particle Size Control Section: 25 to 100 cm.

Description origin: NASIS

Diagnostic Features: ochric epipedon 7 to 18 cm.
cambic horizon 18 to 84 cm.

Country:
State: Tennessee
County: Sevier
MLRA: 130B -- Southern Blue Ridge
Soil Survey Area: SS0130 -- Blue Ridge MLRA Soil Survey
TN640 -- Great Smoky Mountains National Park, Tennessee and North Carolina
6-WAY -- Waynesville, North Carolina
Map Unit: SoD -- Soco-Stecoah complex, 15 to 30 percent slopes, stony
Pit Location:
Quad Name: Mount Le Conte, Tennessee
Std Latitude: 35.6764722
Std Longitude: -83.4747778

Latitude: 35 degrees 40 minutes 35.30 seconds north
Longitude: 83 degrees 28 minutes 29.20 seconds west
Datum: WGS84
UTM Zone: 17
UTM Easting: 276024 meters
UTM Northing: 3950887 meters

Primary Earth Cover: Tree cover
Secondary Earth Cover: Intermixed conifers and hardwoods
Existing Vegetation:
Parent Material: coarse-loamy creep deposits derived from metasedimentary rock over coarse-loamy residuum weathered from metasedimentary rock and/or coarse-loamy residuum weathered from phyllite
Bedrock Kind: Metasedimentary rock
Phyllite

Bedrock Depth:

Bedrock Hardness: strongly cemented
moderately cemented

Bedrock Fracture Interval: 45 to less than 100 centimeters
10 to less than 45 centimeters

Surface Fragments: 0.1 percent flat subangular very strongly cemented 380- to 600-millimeter Metasedimentary rock fragments

Description database: KSSL

Cont. Site ID: S2016TN155003 **Pedon ID:** S2016TN155003

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
28.0	919.0	20	12.7	21.9	3.4	1,428	165	well		

Oe--0 to 7 centimeters (0.0 to 2.8 inches); moderately decomposed plant material; Moderately decomposed organic litter and root mat; abrupt smooth boundary.; abrupt smooth boundary. Lab sample # 17N02672 Oe--0 to 7 centimeters (0.0 to 2.8 inches); moderately decomposed plant material; Moderately decomposed organic litter and root mat; abrupt smooth boundary.; abrupt smooth boundary. Lab sample # 17N02672

A1--7 to 13 centimeters (2.8 to 5.1 inches); black (10YR 2/1) silt loam; moderate medium subangular blocky structure; friable, nonsticky, nonplastic; common very fine roots throughout and few medium roots throughout and common fine roots throughout; 2 percent nonflat subangular very strongly cemented 5 to 20-millimeter Metasedimentary rock fragments and 3 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; A1 texture has higher Organic Matter.; A1 Structure: Check structure requirements for horizons with higher Organic textures. texture has higher Organic Matter.; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; abrupt wavy boundary. Lab sample # 17N02673 A1--7 to 13 centimeters (2.8 to 5.1 inches); black (10YR 2/1) silt loam; moderate medium subangular blocky structure; friable, nonsticky, nonplastic; common very fine roots throughout and few medium roots throughout and common fine roots throughout; 2 percent nonflat subangular very strongly cemented 5 to 20-millimeter Metasedimentary rock fragments and 3 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; A1 texture has higher Organic Matter.; A1 Structure: Check structure requirements for horizons with higher Organic textures. texture has higher Organic Matter.; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; abrupt wavy boundary. Lab sample # 17N02673

A2--13 to 18 centimeters (5.1 to 7.1 inches); very dark grayish brown (10YR 3/2) loam; weak fine granular structure; friable, nonsticky, nonplastic; few very coarse roots throughout and few fine roots throughout and many coarse roots throughout; 2 percent nonflat subangular very strongly cemented 5 to 20-millimeter Metasedimentary rock fragments and 3 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments and 8 percent flat subangular very strongly cemented 150 to 380-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; abrupt wavy boundary. Lab sample # 17N02674 A2--13 to 18 centimeters (5.1 to 7.1 inches); very dark grayish brown (10YR 3/2) loam; weak fine granular structure; friable, nonsticky, nonplastic; few very coarse roots throughout and few fine roots throughout and many coarse roots throughout; 2 percent nonflat subangular very strongly cemented 5 to 20-millimeter Metasedimentary rock fragments and 3 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments and 8 percent flat subangular very strongly cemented 150 to 380-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; abrupt wavy boundary. Lab sample # 17N02674

Bw1--18 to 29 centimeters (7.1 to 11.4 inches); dark yellowish brown (10YR 3/4) loam; weak fine subangular blocky structure; friable, nonsticky, nonplastic; few very coarse roots throughout and common medium roots throughout and few fine roots throughout and common coarse roots throughout; 5 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments and 8 percent flat subangular very strongly cemented 150 to 380-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; clear smooth boundary. Lab sample # 17N02675 Bw1--18 to 29 centimeters (7.1 to 11.4 inches); dark yellowish brown (10YR 3/4) loam; weak fine subangular blocky structure; friable, nonsticky, nonplastic; few very coarse roots throughout and common medium roots throughout and few fine roots throughout and common coarse roots throughout; 5 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments and 8 percent flat subangular very strongly cemented 150 to 380-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; clear smooth boundary. Lab sample # 17N02675

Bw2--29 to 63 centimeters (11.4 to 24.8 inches); dark yellowish brown (10YR 4/4) loam; moderate medium subangular blocky structure; friable, nonsticky, nonplastic; few medium roots throughout and few fine roots throughout and few coarse roots throughout; 2 percent nonflat subangular very strongly cemented 5 to 20-millimeter Metasedimentary rock fragments and 3 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments and 8 percent flat subangular very strongly cemented 150 to 380-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used

for this site. Fragments were estimated ; clear smooth boundary. Lab sample # 17N02676 Bw2--29 to 63 centimeters (11.4 to 24.8 inches); dark yellowish brown (10YR 4/4) loam; moderate medium subangular blocky structure; friable, nonsticky, nonplastic; few medium roots throughout and few fine roots throughout and few coarse roots throughout; 2 percent nonflat subangular very strongly cemented 5 to 20-millimeter Metasedimentary rock fragments and 3 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments and 8 percent flat subangular very strongly cemented 150 to 380-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; clear smooth boundary. Lab sample # 17N02676

Bw3--63 to 84 centimeters (24.8 to 33.1 inches); dark yellowish brown (10YR 4/4) loam; moderate fine subangular blocky structure; friable, nonsticky, nonplastic; 2 percent nonflat subangular very strongly cemented 5 to 20-millimeter Metasedimentary rock fragments and 3 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments and 8 percent flat subangular very strongly cemented 150 to 380-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated . Lab sample # 17N02677 Bw3--63 to 84 centimeters (24.8 to 33.1 inches); dark yellowish brown (10YR 4/4) loam; moderate fine subangular blocky structure; friable, nonsticky, nonplastic; 2 percent nonflat subangular very strongly cemented 5 to 20-millimeter Metasedimentary rock fragments and 3 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments and 8 percent flat subangular very strongly cemented 150 to 380-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated . Lab sample # 17N02677

PEDON DESCRIPTION -- NEON Site GRSM

Print Date: Oct 11 2017

Description Date: Oct 11 2016

Describer: Tiffany Smith

NEON Plot ID: GRSM_006

Site ID: S2016TN155006

Pedon ID: S2016TN155006

Site Note:

Pedon Note: Site sampled is different than named the map units' Major Components and may not be a typical inclusion.

Lab Source ID: KSSL

Lab Pedon #: 17N0520

Soil Name as Described/Sampled: Spivey

Classification: Loamy-skeletal, isotic, mesic Typic Humudepts

Soil Name as Correlated:

Classification:

Pedon Type: taxadjunct to the series

Pedon Purpose: laboratory sampling site

Taxon Kind: taxadjunct

Associated Soils: Cullowhee, Lonon, Reddies, Santeetlah, Soco, Spivey, Wesser

Physiographic Division: Appalachian Highlands

Physiographic Province: Blue Ridge Province

Physiographic Section: Southern section

State Physiographic Area:

Local Physiographic Area: Great Smoky Mountains

Geomorphic Setting: on footslope of tread of base slope of mountainbase of 1 mountains
on footslope of tread of base slope of mountainbase of 2 colluvial apron
on footslope of tread of base slope of mountainbase of 3 stream terrace

Upslope Shape: linear

Cross Slope Shape: linear

Particle Size Control Section: 25 to 100 cm.

Description origin: NASIS

Diagnostic Features: ochric epipedon 0 to 4 cm.
cambic horizon 4 to 53 cm.

Country:

State: Tennessee

County: Sevier

MLRA: 130B -- Southern Blue Ridge

Soil Survey Area: SS0130 -- Blue Ridge MLRA Soil Survey
TN640 -- Great Smoky Mountains National Park, Tennessee and North Carolina
6-WAY -- Waynesville, North Carolina

Map Unit: Dg -- Dellwood-Smokemont complex, 0 to 5 percent slopes, frequently flooded

Pit Location:

Quad Name: Wear Cove, Tennessee

Std Latitude: 35.6789167

Std Longitude: -83.6455556

Latitude: 35 degrees 40 minutes 44.10 seconds north

Longitude: 83 degrees 38 minutes 44.00 seconds west

Datum: WGS84

UTM Zone: 17

UTM Easting: 260572 meters

UTM Northing: 3951561 meters

Primary Earth Cover: Tree cover

Secondary Earth Cover: Intermixed conifers and hardwoods

Existing Vegetation:

Parent Material: coarse-loamy colluvium derived from metasedimentary rock over coarse-loamy residuum weathered from phyllite

Bedrock Kind: Metasedimentary rock

Bedrock Depth:

Bedrock Hardness: strongly cemented

Bedrock Fracture Interval: 45 to less than 100 centimeters

Surface Fragments: 1.6 percent flat subangular very strongly cemented 380- to 600-millimeter Metasedimentary rock fragments

Description database: KSSL

Top Depth (cm)	Bottom Depth (cm)	Restriction Kind	Restriction Hardness
53	58	bedrock, paralithic	Moderately cemented

Cont. Site ID: S2016TN155006 **Pedon ID:** S2016TN155006

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
15.0	532.8	160	12.7	21.9	3.4	1,505	165	well		

A--0 to 4 centimeters (0.0 to 1.6 inches); dark brown (10YR 3/3) loam; weak fine granular structure; very friable, nonsticky, slightly plastic; common very fine roots throughout and common medium roots throughout and common fine roots throughout; 8 percent flat subangular very strongly cemented 2 to 150-millimeter Metasiltstone fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; clear wavy boundary. Lab sample # 17N02678

Bw1--4 to 36 centimeters (1.6 to 14.2 inches); dark yellowish brown (10YR 4/4) channery loam; weak fine subangular blocky, and weak medium subangular blocky structure; very friable, slightly sticky, slightly plastic; few fine roots throughout and common coarse roots throughout; 7 percent flat subangular very strongly cemented 150 to 380-millimeter Metasiltstone fragments and 21 percent flat subangular very strongly cemented 2 to 150-millimeter Metasiltstone fragments; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 28%, channers & flags. Converted to 21% Channers & 7% Flags. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B".; gradual wavy boundary. Lab sample # 17N02679. Horizon has an increase in Clay content (percentage). A number of mountain soils have what has been termed, as a "Clay Bulge" in the upper portion of the "B" Horizon. Depends on where a soil is sampled for Textural Class to determine Bw or Bt. This has been described by NCSU lab as "The minimum expression of an Argillic or the Maximum expression of a Cambic".

2Bw2--36 to 53 centimeters (14.2 to 20.9 inches); strong brown (7.5YR 4/6) very channery loam; weak fine subangular blocky, and weak medium subangular blocky structure; very friable, slightly sticky, slightly plastic; few fine roots throughout; 14 percent flat subangular very strongly cemented 150 to 380-millimeter Metasiltstone fragments and 30 percent flat subangular very strongly cemented 2 to 150-millimeter Metasiltstone fragments; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 44%, channers & flags. Converted to 30% Channers & 14% Flags. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B". Lab sample # 17N02680

Cr--53 to 58 centimeters (20.9 to 22.8 inches); bedrock; massive; Highly weathered, tilted Siltstone. Is this truly Siltstone or is it MetaSiltstone. .

PEDON DESCRIPTION -- NEON Site GRSM

Print Date: Oct 11 2017
Description Date: Oct 14 2016
Describer: Mike Jones
NEON Plot ID: GRSM_007
Site ID: S2016TN155007

Pedon ID: S2016TN155007

Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0521
Soil Name as Described/Sampled: Junaluska
Classification: Fine-loamy, mixed, subactive, mesic Typic Hapludults

Soil Name as Correlated:

Classification:
Pedon Type: correlates to named soil
Pedon Purpose: laboratory sampling site
Taxon Kind: series
Associated Soils: Brasstown, Santeetlah, Snowbird, Soco, Spivey, Stecoah, Tsali
Physiographic Division: Appalachian Highlands
Physiographic Province: Blue Ridge Province

Physiographic Section: Southern section
State Physiographic Area:

Local Physiographic Area: Great Smoky Mountains

Geomorphic Setting: on shoulder of side slope of mountainflank of 2 mountain slope
on shoulder of side slope of mountainflank of 1 mountains
Upslope Shape: linear

Cross Slope Shape: convex

Particle Size Control Section: 25 to 83 cm.

Description origin: NASIS

Diagnostic Features: ochric epipedon 6 to 25 cm.
argillic horizon 25 to 68 cm.
paralithic contact 83 to 100 cm.

Country:
State: Tennessee
County: Sevier
MLRA: 130B -- Southern Blue Ridge
Soil Survey Area: SS0130 -- Blue Ridge MLRA Soil Survey
TN640 -- Great Smoky Mountains National Park, Tennessee and North Carolina
6-WAY -- Waynesville, North Carolina
Map Unit: JbD -- Junaluska-Brasstown complex, 15 to 30 percent slopes, stony
Pit Location:
Quad Name: Gatlinburg, Tennessee
Std Latitude: 35.6867500
Std Longitude: -83.5141389

Latitude: 35 degrees 41 minutes 12.30 seconds north
Longitude: 83 degrees 30 minutes 50.90 seconds west
Datum: WGS84
UTM Zone: 17
UTM Easting: 272490 meters
UTM Northing: 3952118 meters

Primary Earth Cover: Tree cover
Secondary Earth Cover: Intermixed conifers and hardwoods
Existing Vegetation:
Parent Material: fine-loamy creep deposits derived from metasedimentary rock over fine-loamy residuum weathered from metasedimentary rock and/or fine-loamy residuum weathered from phyllite
Bedrock Kind: Metasedimentary rock
Phyllite

Bedrock Depth:

Bedrock Hardness: strongly cemented
moderately cemented
Bedrock Fracture Interval: 45 to less than 100 centimeters
10 to less than 45 centimeters
Surface Fragments: 0.1 percent flat subangular very strongly cemented 380- to 600-millimeter Metasedimentary rock fragments

Description database: KSSL

Top Depth (cm)	Bottom Depth (cm)	Restriction Kind	Restriction Hardness
83	100	bedrock, paralithic	Moderately cemented

Cont. Site ID: S2016TN155007 **Pedon ID:** S2016TN155007

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
36.0	660.8	340	12.7	21.9	3.4	1,428	165	well		

Oe--0 to 6 centimeters (0.0 to 2.4 inches); very dark brown (10YR 2/2) moderately decomposed plant material; very friable; many medium roots throughout and many fine roots throughout and many coarse roots throughout; 2 percent flat subangular strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Oe--0 to 6cm; moderately decomposed leaf litter; abrupt smooth boundary. ; abrupt smooth boundary. Lab sample # 17N02681 Oe--0 to 6 centimeters (0.0 to 2.4 inches); very dark brown (10YR 2/2) moderately decomposed plant material; very friable; many medium roots throughout and many fine roots throughout and many coarse roots throughout; 2 percent flat subangular strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Oe--0 to 6cm; moderately decomposed leaf litter; abrupt smooth boundary. ; abrupt smooth boundary. Lab sample # 17N02681

A--6 to 25 centimeters (2.4 to 9.8 inches); dark brown (10YR 3/3) loam; moderate medium granular, and moderate fine granular structure; friable; many medium roots throughout and many fine roots throughout and many coarse roots throughout; 1 percent flat subangular strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; abrupt wavy boundary. Lab sample # 17N02682 A--6 to 25 centimeters (2.4 to 9.8 inches); dark brown (10YR 3/3) loam; moderate medium granular, and moderate fine granular structure; friable; many medium roots throughout and many fine roots throughout and many coarse roots throughout; 1 percent flat subangular strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; abrupt wavy boundary. Lab sample # 17N02682

Bt--25 to 68 centimeters (9.8 to 26.8 inches); strong brown (7.5YR 5/6) loam; moderate medium subangular blocky structure; friable; common medium roots throughout and common fine roots throughout; common very fine and common fine pores; 10 percent faint clay films on all faces of peds; 1 percent flat subangular strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 2%, channers. Converted to 1% Channers. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B".; gradual wavy boundary. Lab sample # 17N02683 Bt--25 to 68 centimeters (9.8 to 26.8 inches); strong brown (7.5YR 5/6) loam; moderate medium subangular blocky structure; friable; common medium roots throughout and common fine roots throughout; common very fine and common fine pores; 10 percent faint clay films on all faces of peds; 1 percent flat subangular strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 2%, channers. Converted to 1% Channers. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B".; gradual wavy boundary. Lab sample # 17N02683

C--68 to 83 centimeters (26.8 to 32.7 inches); strong brown (7.5YR 5/6) channery loam; weak coarse subangular blocky structure; friable; few fine roots throughout; few very fine and few fine pores; 1 percent flat subangular very strongly cemented 150 to 380-millimeter Metasedimentary rock fragments and 15 percent flat subangular strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 25%, channers & flags. Converted to 15% Channers & 1% Flags. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B". . Lab sample # 17N02684 C--68 to 83 centimeters (26.8 to 32.7 inches); strong brown (7.5YR 5/6) channery loam; weak coarse subangular blocky structure; friable; few fine roots throughout; few very fine and few fine pores; 1 percent flat subangular very strongly cemented 150 to 380-millimeter Metasedimentary rock fragments and 15 percent flat subangular strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 25%, channers & flags. Converted to 15% Channers & 1% Flags. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B". . Lab sample # 17N02684

Cr--83 to 100 centimeters (32.7 to 39.4 inches); bedrock; few fine roots in cracks; 15 percent 5YR 5/8) silica coats on bedrock; Few thin seams of yellowish red (5YR 5/8) sandy clay loam material in cracks between rocks; few medium roots in cracks that are spaced more than 4 inches apart.; Weathered, moderately cemented metasandstone; high excavation difficulty; few thin seams of yellowish red (5YR 5/8) sandy clay loam material in cracks; strongly acid; few medium roots in cracks that are spaced more than 4 inches apart. Cr--83 to 100 centimeters (32.7 to 39.4 inches); bedrock; few fine roots in cracks; 15 percent 5YR 5/8) silica coats on bedrock; Few thin seams of yellowish red (5YR 5/8) sandy clay loam material in cracks between rocks; few medium roots in cracks that are spaced more than 4 inches apart.; Weathered, moderately cemented metasandstone; high excavation difficulty; few thin seams of yellowish red (5YR 5/8) sandy clay loam material in cracks; strongly acid; few medium roots in cracks that are

spaced more than 4 inches apart.

PEDON DESCRIPTION -- NEON Site GRSM

Print Date: Oct 11 2017

Description Date: Oct 13 2016

Describer: Mike Jones

NEON Plot ID: GRSM_009

Site ID: S2016TN155009

Pedon ID: S2016TN155009

Site Note: Excellent Woodland Site: Northern Red Oak, Black Cherry, Sugar Maple, Shagbark Cherry is in the Canopy. A 10X Prism measured 160-170 basal area. Fraser Magnolia, Rhododendron, Eastern Hemlock, Striped Maple is in the understory.

Pedon Note: Matches Spivey criteria except for Bx horizon & thin surface.

Lab Source ID: KSSL

Lab Pedon #: 17N0522

Soil Name as Described/Sampled: Spivey

Classification: Loamy-skeletal, isotic, mesic Typic Humudepts

Soil Name as Correlated:

Classification:

Pedon Type: taxadjunct to the series

Pedon Purpose: laboratory sampling site

Taxon Kind: taxadjunct

Associated Soils: Ditney, Junaluska, Santeetlah, Soco, Spivey

Physiographic Division: Appalachian Highlands

Physiographic Province: Blue Ridge Province

Physiographic Section: Southern section

State Physiographic Area:

Local Physiographic Area: Great Smoky Mountains

Geomorphic Setting: on footslope of base slope of mountainbase of 1 mountains
on footslope of base slope of mountainbase of 2 mountain slope
on footslope of base slope of mountainbase of 3 colluvial apron

Upslope Shape: convex

Cross Slope Shape: linear

Particle Size Control Section: 25 to 100 cm.

Description origin: NASIS

Diagnostic Features: ochric epipedon 0 to 21 cm.
cambic horizon 21 to 41 cm.
fragic soil properties 41 to 80 cm.

Country:

State: Tennessee

County: Sevier

MLRA: 130B -- Southern Blue Ridge

Soil Survey Area: SS0130 -- Blue Ridge MLRA Soil Survey
TN640 -- Great Smoky Mountains National Park, Tennessee and North Carolina
6-WAY -- Waynesville, North Carolina

Map Unit: NtC -- Northcove-Maymead-Nowhere complex, 8 to 15 percent slopes, very stony

Pit Location:

Quad Name: Mount Le Conte, Tennessee

Std Latitude: 35.6708056

Std Longitude: -83.4901667

Latitude: 35 degrees 40 minutes 14.90 seconds north

Longitude: 83 degrees 29 minutes 24.60 seconds west

Datum: WGS84

UTM Zone: 17

UTM Easting: 274615 meters

UTM Northing: 3950294 meters

Primary Earth Cover: Tree cover

Secondary Earth Cover: Hardwoods

Existing Vegetation:

Parent Material: coarse-loamy colluvium derived from metasedimentary rock

Bedrock Kind: Metasedimentary rock
Phyllite

Bedrock Depth:

Bedrock Hardness: strongly cemented
moderately cemented

Bedrock Fracture Interval: 45 to less than 100 centimeters
10 to less than 45 centimeters

Surface Fragments: 1.6 percent flat subangular very strongly cemented 380- to 600-millimeter Metasedimentary rock fragments

Description database: KSSL

Top Depth (cm)	Bottom Depth (cm)	Restriction Kind	Restriction Hardness
41	80	fragipan	Weakly cemented

Cont. Site ID: S2016TN155009 **Pedon ID:** S2016TN155009

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
18.0	855.6	4	12.7	21.9	3.4	1,428	165	well		

A1--0 to 8 centimeters (0.0 to 3.1 inches); black (10YR 2/1) channery loam; weak fine granular structure; very friable; common medium roots throughout and many fine roots throughout and few coarse roots throughout; common fine pores; 1 percent flat subangular very strongly cemented 150 to 380-millimeter Metasedimentary rock fragments and 16 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 25%, channers & Flags. Converted to 16% Channers & 1% Flags. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B".; clear smooth boundary. Lab sample # 17N02685 A1--0 to 8 centimeters (0.0 to 3.1 inches); black (10YR 2/1) channery loam; weak fine granular structure; very friable; common medium roots throughout and many fine roots throughout and few coarse roots throughout; common fine pores; 1 percent flat subangular very strongly cemented 150 to 380-millimeter Metasedimentary rock fragments and 16 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 25%, channers & Flags. Converted to 16% Channers & 1% Flags. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B".; clear smooth boundary. Lab sample # 17N02685

A2--8 to 21 centimeters (3.1 to 8.3 inches); dark brown (7.5YR 3/2) loam; moderate medium granular, and moderate coarse granular structure; friable; many medium roots throughout and many fine roots throughout and few coarse roots throughout; common fine pores; 1 percent flat subangular very strongly cemented 150 to 380-millimeter Metasedimentary rock fragments and 4 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 5%, channers & Flags. Converted to 4% Channers & 1% Flags. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B".; clear smooth boundary. Lab sample # 17N02686 A2--8 to 21 centimeters (3.1 to 8.3 inches); dark brown (7.5YR 3/2) loam; moderate medium granular, and moderate coarse granular structure; friable; many medium roots throughout and many fine roots throughout and few coarse roots throughout; common fine pores; 1 percent flat subangular very strongly cemented 150 to 380-millimeter Metasedimentary rock fragments and 4 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 5%, channers & Flags. Converted to 4% Channers & 1% Flags. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B".; clear smooth boundary. Lab sample # 17N02686

Bw--21 to 41 centimeters (8.3 to 16.1 inches); dark yellowish brown (10YR 4/4) flaggy loam; moderate fine subangular blocky, and moderate medium subangular blocky structure; friable; few medium roots throughout and few fine roots throughout and few coarse roots throughout; few fine pores; 8 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments and 10 percent flat subangular very strongly cemented 150 to 380-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 27%, channers & Flags. Converted to 8% Channers & 10% Flags. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B".; gradual wavy boundary. Lab sample # 17N02687. Texture is heavy loam, light sandy clay loam. Bw--21 to 41 centimeters (8.3 to 16.1 inches); dark yellowish brown (10YR 4/4) flaggy loam; moderate fine subangular blocky, and moderate medium subangular blocky structure; friable; few medium roots throughout and few fine roots throughout and few coarse roots throughout; few fine pores; 8 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments and 10 percent flat subangular very strongly cemented 150 to 380-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 27%, channers & Flags. Converted to 8% Channers & 10% Flags. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B".; gradual wavy boundary. Lab sample # 17N02687. Texture is heavy loam, light sandy clay loam.

Bx--41 to 80 centimeters (16.1 to 31.5 inches); dark yellowish brown (10YR 4/4) sandy clay loam; weak fine subangular blocky, and weak medium subangular blocky structure; very firm; very few fine roots throughout; few fine pores; 6 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 9%, channers. Converted to 6% Channers. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B". Lab sample # 17N02688. Most all roost are gone.; Consistence was determined to by Firm (moist) & Brittle (dry) in the Bx horizon. The very dry conditions may contribute to this field determination. Area at the time of sampling is greater than 15" below annual average precipitation, and continuing to get worse. Bx--41 to 80 centimeters (16.1 to

31.5 inches); dark yellowish brown (10YR 4/4) sandy clay loam; weak fine subangular blocky, and weak medium subangular blocky structure; very firm; very few fine roots throughout; few fine pores; 6 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 9%, channers. Converted to 6% Channers. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B". Lab sample # 17N02688. Most all roost are gone.; Consistence was determined to by Firm (moist) & Brittle (dry) in the Bx horizon. The very dry conditions may contribute to this field determination. Area at the time of sampling is greater than 15" below annual average precipitation, and continuing to get worse.

PEDON DESCRIPTION -- NEON Site GRSM

Print Date: Oct 11 2017

Description Date: Oct 14 2016

Describer: Jenn Mason

NEON Plot ID: GRSM_012

Site ID: S2016TN155012

Pedon ID: S2016TN155012

Site Note:

Pedon Note: Matches Spivey criteria except for thin umbric surface.; Bouldery and stony surface fragments - Impasse at 72cm, large boulder in sample pit, occupies most of the pit volume/space - Shifted pit face twice to aquire the depth obtained. into the Bw - There are few small flagstones in the bottom of the pit.

Lab Source ID: KSSL

Lab Pedon #: 17N0523

Soil Name as Described/Sampled: Spivey

Classification: Loamy-skeletal, isotic, mesic Typic Humudepts

Soil Name as Correlated:

Classification:

Pedon Type: taxadjunct to the series

Pedon Purpose: laboratory sampling site

Taxon Kind: taxadjunct

Associated Soils: Ditney, Junaluska, Santeetlah, Soco, Spivey

Physiographic Division: Appalachian Highlands

Physiographic Province: Blue Ridge Province

Physiographic Section: Southern section

State Physiographic Area:

Local Physiographic Area: Great Smoky Mountains

Geomorphic Setting: on footslope of base slope of mountainbase of 2 mountain slope
on footslope of base slope of mountainbase of 1 mountains
on footslope of base slope of mountainbase of 3 colluvial apron

Upslope Shape: convex

Cross Slope Shape: linear

Particle Size Control Section: 25 to 100 cm.

Description origin: NASIS

Diagnostic Features: umbric epipedon 3 to 24 cm.
cambic horizon 24 to 72 cm.

Country:

State: Tennessee

County: Sevier

MLRA: 130B -- Southern Blue Ridge

Soil Survey Area: SS0130 -- Blue Ridge MLRA Soil Survey
TN640 -- Great Smoky Mountains National Park, Tennessee and North Carolina
6-WAY -- Waynesville, North Carolina

Map Unit: NtC -- Northcove-Maymead-Nowhere complex, 8 to 15 percent slopes, very stony

Pit Location:

Quad Name: Mount Le Conte, Tennessee

Std Latitude: 35.6707500

Std Longitude: -83.4818611

Latitude: 35 degrees 40 minutes 14.70 seconds north

Longitude: 83 degrees 28 minutes 54.70 seconds west

Datum: WGS84

UTM Zone: 17

UTM Easting: 275367 meters

UTM Northing: 3950268 meters

Primary Earth Cover: Tree cover

Secondary Earth Cover: Hardwoods

Existing Vegetation:

Parent Material: coarse-loamy colluvium derived from metasedimentary rock

Bedrock Kind: Metasedimentary rock
Phyllite

Bedrock Depth:

Bedrock Hardness: strongly cemented
moderately cemented

Bedrock Fracture Interval: 45 to less than 100 centimeters
10 to less than 45 centimeters

Surface Fragments: 1.6 percent flat subangular very strongly cemented 380- to 600-millimeter Metasedimentary rock fragments

Description database: KSSL

Cont. Site ID: S2016TN155012 **Pedon ID:** S2016TN155012

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
12.0	912.6	48	12.7	21.9	3.4	1,428	165	well		

Oe--0 to 3 centimeters (0.0 to 1.2 inches); moderately decomposed plant material; Moderately decomposed organic litter and root mat; abrupt smooth boundary.; clear irregular boundary. Lab sample # 17N02689 Oe--0 to 3 centimeters (0.0 to 1.2 inches); moderately decomposed plant material; Moderately decomposed organic litter and root mat; abrupt smooth boundary.; clear irregular boundary. Lab sample # 17N02689

A1--3 to 13 centimeters (1.2 to 5.1 inches); very dark brown (10YR 2/2) loam; weak fine granular structure; friable, nonsticky, nonplastic; many very fine roots throughout and common medium roots throughout and many fine roots throughout and few coarse roots throughout; 4 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; clear wavy boundary. Lab sample # 17N02690 A1--3 to 13 centimeters (1.2 to 5.1 inches); very dark brown (10YR 2/2) loam; weak fine granular structure; friable, nonsticky, nonplastic; many very fine roots throughout and common medium roots throughout and many fine roots throughout and few coarse roots throughout; 4 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; clear wavy boundary. Lab sample # 17N02690

A2--13 to 24 centimeters (5.1 to 9.4 inches); very dark grayish brown (10YR 3/2) loam; moderate medium granular structure; friable, nonsticky, nonplastic; many very fine roots throughout and many fine roots throughout and few coarse roots throughout; 1 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; clear wavy boundary. Lab sample # 17N02691 A2--13 to 24 centimeters (5.1 to 9.4 inches); very dark grayish brown (10YR 3/2) loam; moderate medium granular structure; friable, nonsticky, nonplastic; many very fine roots throughout and many fine roots throughout and few coarse roots throughout; 1 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; clear wavy boundary. Lab sample # 17N02691

Bw1--24 to 58 centimeters (9.4 to 22.8 inches); brown (7.5YR 4/4) loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine roots throughout and common medium roots throughout and common fine roots throughout and few coarse roots throughout; 5 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; gradual smooth boundary. Lab sample # 17N02692 Bw1--24 to 58 centimeters (9.4 to 22.8 inches); brown (7.5YR 4/4) loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine roots throughout and common medium roots throughout and common fine roots throughout and few coarse roots throughout; 5 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; gradual smooth boundary. Lab sample # 17N02692

Bw2--58 to 72 centimeters (22.8 to 28.3 inches); brown (7.5YR 4/4) loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few medium roots throughout and few fine roots throughout and few coarse roots throughout; 5 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; gradual smooth boundary. Lab sample # 17N02693 Bw2--58 to 72 centimeters (22.8 to 28.3 inches); brown (7.5YR 4/4) loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few medium roots throughout and few fine roots throughout and few coarse roots throughout; 5 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; gradual smooth boundary. Lab sample # 17N02693

PEDON DESCRIPTION -- NEON Site GRSM

Print Date: Oct 11 2017

Description Date: Oct 12 2016

Describer: Tiffany Smith

NEON Plot ID: GRSM_017

Site ID: S2016TN155017

Pedon ID: S2016TN155017

Site Note:

Pedon Note: Site sampled is different than named the map units' Major Components and may not be a typical inclusion.

Lab Source ID: KSSL

Lab Pedon #: 17N0524

Soil Name as Described/Sampled: Reddies

Classification: Coarse-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Oxyaquic Humudepts

Soil Name as Correlated:

Classification:

Pedon Type: taxadjunct to the series

Pedon Purpose: laboratory sampling site

Taxon Kind: taxadjunct

Associated Soils: Cheoah, Ditney, Junaluska, Santeetlah, Soco, Spivey

Physiographic Division: Appalachian Highlands

Physiographic Province: Blue Ridge Province

Physiographic Section: Southern section

State Physiographic Area:

Local Physiographic Area: Great Smoky Mountains

Geomorphic Setting: on footslope of base slope of mountainbase of 2 mountain slope
on footslope of base slope of mountainbase of 1 mountains
on footslope of base slope of mountainbase of 3 colluvial apron

Upslope Shape: concave

Cross Slope Shape: linear

Particle Size Control Section: 25 to 100 cm.

Description origin: NASIS

Diagnostic Features: ochric epipedon 2 to 14 cm.
cambic horizon 14 to 51 cm.

Country:

State: Tennessee

County: Sevier

MLRA: 130B -- Southern Blue Ridge

Soil Survey Area: SS0130 -- Blue Ridge MLRA Soil Survey
TN640 -- Great Smoky Mountains National Park, Tennessee and North Carolina
6-WAY -- Waynesville, North Carolina

Map Unit: SsC -- Spivey-Santeetlah-Nowhere complex, 8 to 15 percent slopes, very stony

Pit Location:

Quad Name: Gatlinburg, Tennessee

Std Latitude: 35.6698611

Std Longitude: -83.5225000

Latitude: 35 degrees 40 minutes 11.50 seconds north

Longitude: 83 degrees 31 minutes 21.00 seconds west

Datum: WGS84

UTM Zone: 17

UTM Easting: 271685 meters

UTM Northing: 3950264 meters

Primary Earth Cover: Tree cover

Secondary Earth Cover: Hardwoods

Existing Vegetation:

Parent Material: coarse-loamy colluvium derived from metasedimentary rock

Bedrock Kind: Metasedimentary rock
Phyllite

Bedrock Depth:

Bedrock Hardness: strongly cemented
moderately cemented

Bedrock Fracture Interval: 45 to less than 100 centimeters
10 to less than 45 centimeters

Surface Fragments: 1.6 percent flat subangular very strongly cemented 380- to 600-millimeter Metasedimentary rock fragments

Description database: KSSL

Cont. Site ID: S2016TN155017 **Pedon ID:** S2016TN155017

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
3.0	522.4	133	12.7	21.9	3.4	1,428	165	well		

Oe--0 to 2 centimeters (0.0 to 0.8 inches); reddish brown (5YR 4/4) moderately decomposed plant material; Oe--0 to 1 inch; moderately decomposed organic litter and root mat; abrupt smooth boundary. ; abrupt wavy boundary. Lab sample # 17N02694 Oe--0 to 2 centimeters (0.0 to 0.8 inches); reddish brown (5YR 4/4) moderately decomposed plant material; Oe--0 to 1 inch; moderately decomposed organic litter and root mat; abrupt smooth boundary. ; abrupt wavy boundary. Lab sample # 17N02694

A--2 to 14 centimeters (0.8 to 5.5 inches); dark brown (10YR 3/3) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; common very fine roots throughout and common medium roots throughout and common fine roots throughout; 10 percent flat rounded very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; clear wavy boundary. Lab sample # 17N02695 A--2 to 14 centimeters (0.8 to 5.5 inches); dark brown (10YR 3/3) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; common very fine roots throughout and common medium roots throughout and common fine roots throughout; 10 percent flat rounded very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; clear wavy boundary. Lab sample # 17N02695

Bw1--14 to 28 centimeters (5.5 to 11.0 inches); dark yellowish brown (10YR 3/4) sandy loam; weak fine subangular blocky structure; very friable, nonsticky, nonplastic; common medium roots throughout and common fine roots throughout; 10 percent flat rounded very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; gradual wavy boundary. Lab sample # 17N02696 Bw1--14 to 28 centimeters (5.5 to 11.0 inches); dark yellowish brown (10YR 3/4) sandy loam; weak fine subangular blocky structure; very friable, nonsticky, nonplastic; common medium roots throughout and common fine roots throughout; 10 percent flat rounded very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; gradual wavy boundary. Lab sample # 17N02696

Bw2--28 to 51 centimeters (11.0 to 20.1 inches); brown (10YR 4/3) sandy loam; weak fine subangular blocky structure; very friable, nonsticky, nonplastic; few fine roots throughout; 10 percent flat rounded very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; gradual wavy boundary. Lab sample # 17N02697 Bw2--28 to 51 centimeters (11.0 to 20.1 inches); brown (10YR 4/3) sandy loam; weak fine subangular blocky structure; very friable, nonsticky, nonplastic; few fine roots throughout; 10 percent flat rounded very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; gradual wavy boundary. Lab sample # 17N02697

C--51 to 53 centimeters (20.1 to 20.9 inches); brown (10YR 4/3) sandy loam; massive; very friable, nonsticky, nonplastic; few fine roots throughout; 8 percent flat rounded very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated . Lab sample # 17N02698 C--51 to 53 centimeters (20.1 to 20.9 inches); brown (10YR 4/3) sandy loam; massive; very friable, nonsticky, nonplastic; few fine roots throughout; 8 percent flat rounded very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated . Lab sample # 17N02698

PEDON DESCRIPTION -- NEON Site GRSM

Print Date: Oct 11 2017

Description Date: Oct 12 2016

Describer: Mike Jones

NEON Plot ID: GRSM_019

Site ID: S2016TN155019

Pedon ID: S2016TN155019

Site Note: Lat/Long coordinates were to the SW corner. Some question as to where the other pins (20 & 40m) were. Coordinates may have taken us to the 20m SW pin.

Pedon Note: Site sampled is different than named the map units' Major Components and may not be a typical inclusion.

Lab Source ID: KSSL

Lab Pedon #: 17N0525

Soil Name as Described/Sampled: Tsali

Classification: Loamy, mixed, subactive, mesic, shallow Typic Hapludults

Soil Name as Correlated:

Classification:

Pedon Type: correlates to named soil

Pedon Purpose: laboratory sampling site

Taxon Kind: series

Associated Soils: Brasstown, Junaluska, Lonon, Santeetlah, Snowbird, Soco, Spivey, Stecoah

Physiographic Division: Appalachian Highlands

Physiographic Province: Blue Ridge Province

Physiographic Section: Southern section

State Physiographic Area:

Local Physiographic Area: Great Smoky Mountains

Geomorphic Setting: on summit of crest of mountaintop of 3 ridge
on summit of crest of mountaintop of 2 mountain slope
on summit of crest of mountaintop of 1 mountains

Upslope Shape: convex

Cross Slope Shape: linear

Particle Size Control Section: 7 to 51 cm.

Description origin: NASIS

Diagnostic Features: ochric epipedon 5 to 7 cm.
argillic horizon 7 to 51 cm.
paralithic contact 51 to 100 cm.

Country:

State: Tennessee

County: Sevier

MLRA: 130B -- Southern Blue Ridge

Soil Survey Area: SS0130 -- Blue Ridge MLRA Soil Survey
TN640 -- Great Smoky Mountains National Park, Tennessee and North Carolina
6-WAY -- Waynesville, North Carolina

Map Unit: SsB -- Spivey-Santeetlah-Nowhere complex, 2 to 8 percent slopes, very stony

Pit Location:

Quad Name: Wear Cove, Tennessee

Std Latitude: 35.6787222

Std Longitude: -83.6424722

Latitude: 35 degrees 40 minutes 43.40 seconds north

Longitude: 83 degrees 38 minutes 32.90 seconds west

Datum: WGS84

UTM Zone: 17

UTM Easting: 260850 meters

UTM Northing: 3951532 meters

Primary Earth Cover: Tree cover

Secondary Earth Cover: Intermixed conifers and hardwoods

Existing Vegetation:

Parent Material: fine-loamy creep deposits derived from metasedimentary rock over fine-loamy residuum weathered from metasedimentary rock and/or fine-loamy residuum weathered from phyllite

Bedrock Kind: Metasedimentary rock

Bedrock Depth:

Bedrock Hardness: strongly cemented

Bedrock Fracture Interval: 45 to less than 100 centimeters

Surface Fragments: 1.6 percent flat subangular very strongly cemented 380- to 600-millimeter Metasedimentary rock fragments

Description database: KSSL

Top Depth (cm)	Bottom Depth (cm)	Restriction Kind	Restriction Hardness
51	100	bedrock, paralithic	Moderately cemented

Cont. Site ID: S2016TN155019 **Pedon ID:** S2016TN155019

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
14.0	552.3	327	12.7	21.9	3.4	1,505	165	well		

Oe--0 to 5 centimeters (0.0 to 2.0 inches); moderately decomposed plant material; Oe--0 to 1 inch; moderately decomposed organic mat. ; clear smooth boundary. Lab sample # 17N02699

A--5 to 7 centimeters (2.0 to 2.8 inches); dark brown (7.5YR 3/3) exterior loam; weak very fine granular structure; very friable, nonsticky, nonplastic; few very coarse roots throughout and few coarse roots throughout; 4 percent flat rounded very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Metasandstone is not listed as an option in "Pedon Horizon Fragments". Metasandstone needs to be added. Also, possibly adding "Metasandstone and Phyllite".; The A horizon is too thin to sample.; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; abrupt smooth boundary. Lab sample # 17N02700

Bt1--7 to 27 centimeters (2.8 to 10.6 inches); strong brown (7.5YR 5/6) exterior channery clay loam; weak fine subangular blocky, and weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common medium roots throughout and many fine roots throughout; 2 percent flat subangular very strongly cemented 150 to 380-millimeter Metasedimentary rock fragments and 26 percent flat subangular strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Metasandstone is not listed as an option in "Pedon Horizon Fragments". Metasandstone needs to be added. Also, possibly adding "Metasandstone and Phyllite".; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 44%, channers & flags. Converted to 26% Channers & 2% Flags. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B".; clear wavy boundary. Lab sample # 17N02701

Bt2--27 to 51 centimeters (10.6 to 20.1 inches); strong brown (7.5YR 5/8) exterior very channery clay loam; weak medium subangular blocky, and weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots throughout and few coarse roots throughout; 10 percent flat subangular very strongly cemented 150 to 380-millimeter Metasedimentary rock fragments and 28 percent flat subangular strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Metasandstone is not listed as an option in "Pedon Horizon Fragments". Metasandstone needs to be added. Also, possibly adding "Metasandstone and Phyllite".; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 58%, channers & flags. Converted to 28% Channers & 10% Flags. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B".; abrupt wavy boundary. Lab sample # 17N02702

Cr--51 to 100 centimeters (20.1 to 39.4 inches); bedrock; few medium roots in cracks and few fine roots in cracks; Cr--19 to 80 inches; weathered, moderately cemented, thinly bedded metasedimentary rock; high excavation difficulty; few medium thin seams of yellowish red (5YR 5/6) loam in cracks; few fine and medium roots in cracks that are spaced more than 4 inches apart; extremely acid. . ; Weathered and fractured, interbedded phyllite and metasandstone bedrock that can be ripped. ; Few medium thin seams of yellowish red (5YR 5/6) loam in cracks; few fine and medium roots in cracks that are spaced more than 4 inches apart; extremely acid. .

PEDON DESCRIPTION -- NEON Site GRSM

Print Date: Oct 11 2017
Description Date: Oct 14 2016
Describer: Amanda Connor
NEON Plot ID: GRSM_020
Site ID: S2016TN155020

Pedon ID: S2016TN155020

Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0526
Soil Name as Described/Sampled: Northcove
Classification: Loamy-skeletal, mixed, semiactive, mesic Typic Dystrudepts

Soil Name as Correlated:

Classification:
Pedon Type: correlates to named soil
Pedon Purpose: laboratory sampling site
Taxon Kind: series
Associated Soils: Cheoah, Ditney, Junaluska, Santeetlah, Soco, Spivey
Physiographic Division: Appalachian Highlands
Physiographic Province: Blue Ridge Province
Physiographic Section: Southern section
State Physiographic Area:

Local Physiographic Area: Great Smoky Mountains

Geomorphic Setting: on footslope of base slope of mountainbase of 2 mountain slope
on footslope of base slope of mountainbase of 1 mountains
on footslope of base slope of mountainbase of 3 colluvial apron

Upslope Shape: convex

Cross Slope Shape: linear

Particle Size Control Section: 25 to 100 cm.

Description origin: NASIS

Diagnostic Features: ochric epipedon 2 to 16 cm.
cambic horizon 16 to 100 cm.

Country:
State: Tennessee
County: Sevier
MLRA: 130B -- Southern Blue Ridge
Soil Survey Area: SS0130 -- Blue Ridge MLRA Soil Survey
TN640 -- Great Smoky Mountains National Park, Tennessee and North Carolina
6-WAY -- Waynesville, North Carolina
Map Unit: SsC -- Spivey-Santeetlah-Nowhere complex, 8 to 15 percent slopes, very stony
Pit Location:
Quad Name: Mount Guyot, Tennessee
Std Latitude: 35.7033333
Std Longitude: -83.3611111

Latitude: 35 degrees 42 minutes 12.00 seconds north
Longitude: 83 degrees 21 minutes 40.00 seconds west
Datum: WGS84
UTM Zone: 17
UTM Easting: 286385 meters
UTM Northing: 3953614 meters

Primary Earth Cover: Tree cover
Secondary Earth Cover: Hardwoods
Existing Vegetation:
Parent Material: coarse-loamy colluvium derived from metasedimentary rock
Bedrock Kind: Metasedimentary rock
Phyllite

Bedrock Depth:

Bedrock Hardness: strongly cemented
moderately cemented

Bedrock Fracture Interval: 45 to less than 100 centimeters
10 to less than 45 centimeters

Surface Fragments: 1.6 percent flat subangular very strongly cemented 380- to 600-millimeter Metasedimentary rock fragments

Description database: KSSL

Cont. Site ID: S2016TN155020 **Pedon ID:** S2016TN155020

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
8.0	631.2	298	12.7	21.9	3.4	1,428	165	well		

Oi--0 to 2 centimeters (0.0 to 0.8 inches); slightly decomposed plant material; Oi--0 inch to 1; slightly decomposed, leaves and twigs. ; abrupt smooth boundary. Lab sample # 17N02703 Oi--0 to 2 centimeters (0.0 to 0.8 inches); slightly decomposed plant material; Oi--0 inch to 1; slightly decomposed, leaves and twigs. ; abrupt smooth boundary. Lab sample # 17N02703

A1--2 to 11 centimeters (0.8 to 4.3 inches); very dark grayish brown (10YR 3/2) cobbly loam; weak medium granular structure; friable, nonsticky, nonplastic; many medium roots throughout and many fine roots throughout and common coarse roots throughout; 5 percent nonflat subrounded strongly cemented 2 to 75-millimeter Graywacke fragments and 25 percent nonflat subrounded strongly cemented 76 to 250-millimeter Graywacke fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; clear wavy boundary. Lab sample # 17N02704 A1--2 to 11 centimeters (0.8 to 4.3 inches); very dark grayish brown (10YR 3/2) cobbly loam; weak medium granular structure; friable, nonsticky, nonplastic; many medium roots throughout and many fine roots throughout and common coarse roots throughout; 5 percent nonflat subrounded strongly cemented 2 to 75-millimeter Graywacke fragments and 25 percent nonflat subrounded strongly cemented 76 to 250-millimeter Graywacke fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; clear wavy boundary. Lab sample # 17N02704

A2--11 to 16 centimeters (4.3 to 6.3 inches); dark brown (10YR 3/3) cobbly loam; weak fine subangular blocky, and weak coarse granular structure; very friable, nonsticky, nonplastic; common medium roots throughout and common fine roots throughout and common coarse roots throughout; 5 percent nonflat subrounded strongly cemented 2 to 75-millimeter Graywacke fragments and 25 percent nonflat subrounded strongly cemented 76 to 250-millimeter Graywacke fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; clear wavy boundary. Lab sample # 17N02705 A2--11 to 16 centimeters (4.3 to 6.3 inches); dark brown (10YR 3/3) cobbly loam; weak fine subangular blocky, and weak coarse granular structure; very friable, nonsticky, nonplastic; common medium roots throughout and common fine roots throughout and common coarse roots throughout; 5 percent nonflat subrounded strongly cemented 2 to 75-millimeter Graywacke fragments and 25 percent nonflat subrounded strongly cemented 76 to 250-millimeter Graywacke fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; clear wavy boundary. Lab sample # 17N02705

Bw1--16 to 49 centimeters (6.3 to 19.3 inches); brown (10YR 4/3) cobbly loam; weak fine subangular blocky, and weak medium subangular blocky structure; very friable, slightly sticky, slightly plastic; common medium roots throughout and common fine roots throughout and common coarse roots throughout; 10 percent faint clay films on all faces of peds; 5 percent nonflat subrounded strongly cemented 2 to 75-millimeter Graywacke fragments and 25 percent nonflat subrounded strongly cemented 76 to 250-millimeter Graywacke fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; gradual wavy boundary. Lab sample # 17N02706. Horizon has an increase in Clay content (percentage). A number of mountain soils have what has been termed, as a "Clay Bulge" in the upper portion of the "B" Horizon. Depends on where a soil is sampled for Textural Class to determine Bw or Bt. This has been described by NCSU lab as "The minimum expression of an Argillic or the Maximum expression of a Cambic". ; Has weakly developed clay films Bw1--16 to 49 centimeters (6.3 to 19.3 inches); brown (10YR 4/3) cobbly loam; weak fine subangular blocky, and weak medium subangular blocky structure; very friable, slightly sticky, slightly plastic; common medium roots throughout and common fine roots throughout and common coarse roots throughout; 10 percent faint clay films on all faces of peds; 5 percent nonflat subrounded strongly cemented 2 to 75-millimeter Graywacke fragments and 25 percent nonflat subrounded strongly cemented 76 to 250-millimeter Graywacke fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; gradual wavy boundary. Lab sample # 17N02706. Horizon has an increase in Clay content (percentage). A number of mountain soils have what has been termed, as a "Clay Bulge" in the upper portion of the "B" Horizon. Depends on where a soil is sampled for Textural Class to determine Bw or Bt. This has been described by NCSU lab as "The minimum expression of an Argillic or the Maximum expression of a Cambic". ; Has weakly developed clay films

Bw2--49 to 100 centimeters (19.3 to 39.4 inches); dark yellowish brown (10YR 4/4) very cobbly loam; moderate medium subangular blocky, and moderate coarse subangular blocky structure; friable, slightly sticky, slightly plastic; common medium roots throughout and common fine roots throughout and common coarse roots throughout; 10 percent faint clay films on all faces of peds; 5 percent nonflat subrounded strongly cemented 2 to 75-millimeter Graywacke fragments and 15 percent nonflat

subangular strongly cemented 250 to 600-millimeter Graywacke fragments and 25 percent nonflat subrounded strongly cemented 76 to 250-millimeter Graywacke fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated . Lab sample # 17N02707 Bw2--49 to 100 centimeters (19.3 to 39.4 inches); dark yellowish brown (10YR 4/4) very cobbly loam; moderate medium subangular blocky, and moderate coarse subangular blocky structure; friable, slightly sticky, slightly plastic; common medium roots throughout and common fine roots throughout and common coarse roots throughout; 10 percent faint clay films on all faces of peds; 5 percent nonflat subrounded strongly cemented 2 to 75-millimeter Graywacke fragments and 15 percent nonflat subangular strongly cemented 250 to 600-millimeter Graywacke fragments and 25 percent nonflat subrounded strongly cemented 76 to 250-millimeter Graywacke fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated . Lab sample # 17N02707

PEDON DESCRIPTION -- NEON Site GRSM

Print Date: Oct 11 2017
Description Date: Oct 5 2016
Describer: Amanda Connor
NEON Plot ID: GRSM_022
Site ID: S2016TN155022

Pedon ID: S2016TN155022

Site Note:
Pedon Note: Site sampled is different than named the map units' Major Components and may not be a typical inclusion.
Lab Source ID: KSSL
Lab Pedon #: 17N0527
Soil Name as Described/Sampled: Junaluska
Classification: Fine-loamy, mixed, subactive, mesic Typic Hapludults

Soil Name as Correlated:

Classification:
Pedon Type: taxadjunct to the series
Pedon Purpose: laboratory sampling site
Taxon Kind: taxadjunct
Associated Soils: Brasstown, Santeetlah, Snowbird, Soco, Spivey, Stecoah, Tsali
Physiographic Division: Appalachian Highlands
Physiographic Province: Blue Ridge Province

Physiographic Section: Southern section
State Physiographic Area:

Local Physiographic Area: Great Smoky Mountains

Geomorphic Setting: on backslope of side slope of mountainflank, lower third of 2 mountain slope
on backslope of side slope of mountainflank, lower third of 1 mountains
Upslope Shape: convex

Cross Slope Shape: convex

Particle Size Control Section: 25 to 89 cm.

Description origin: NASIS
Diagnostic Features: umbric epipedon 5 to 37 cm.
argillic horizon 37 to 89 cm.

Country:
State: Tennessee
County: Sevier
MLRA: 130B -- Southern Blue Ridge
Soil Survey Area: SS0130 -- Blue Ridge MLRA Soil Survey
TN640 -- Great Smoky Mountains National Park, Tennessee and North Carolina
6-WAY -- Waynesville, North Carolina
Map Unit: SsD -- Spivey-Santeetlah complex, 15 to 30 percent slopes, very stony
Pit Location:

Quad Name: Mount Le Conte, Tennessee

Std Latitude: 35.6856389
Std Longitude: -83.3981667

Latitude: 35 degrees 41 minutes 8.30 seconds north
Longitude: 83 degrees 23 minutes 53.40 seconds west
Datum: WGS84
UTM Zone: 17
UTM Easting: 282983 meters
UTM Northing: 3951732 meters

Primary Earth Cover: Tree cover
Secondary Earth Cover: Intermixed conifers and hardwoods
Existing Vegetation:
Parent Material: fine-loamy creep deposits derived from metasedimentary rock over fine-loamy residuum weathered from metasedimentary rock and/or fine-loamy residuum weathered from phyllite
Bedrock Kind: Metasedimentary rock
Phyllite

Bedrock Depth:

Bedrock Hardness: strongly cemented
moderately cemented
Bedrock Fracture Interval: 45 to less than 100 centimeters
10 to less than 45 centimeters
Surface Fragments: 0.1 percent flat subangular very strongly cemented 380- to 600-millimeter Metasedimentary rock fragments

Description database: KSSL

Cont. Site ID: S2016TN155022 **Pedon ID:** S2016TN155022

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
14.0	709.3	215	12.7	21.9	3.4	1,428	165	well		

Oe--0 to 5 centimeters (0.0 to 2.0 inches); moderately decomposed plant material; Oe--0 to 2 inch; moderately decomposed organic mat. ; abrupt smooth boundary. Lab sample # 17N02708 Oe--0 to 5 centimeters (0.0 to 2.0 inches); moderately decomposed plant material; Oe--0 to 2 inch; moderately decomposed organic mat. ; abrupt smooth boundary. Lab sample # 17N02708

A1--5 to 12 centimeters (2.0 to 4.7 inches); dark brown (10YR 3/3) loam; weak fine granular structure; very friable; many medium roots throughout and many fine roots throughout and many coarse roots throughout; fine tubular pores; 1 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; clear wavy boundary. Lab sample # 17N02709 A1--5 to 12 centimeters (2.0 to 4.7 inches); dark brown (10YR 3/3) loam; weak fine granular structure; very friable; many medium roots throughout and many fine roots throughout and many coarse roots throughout; fine tubular pores; 1 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; clear wavy boundary. Lab sample # 17N02709

A2--12 to 37 centimeters (4.7 to 14.6 inches); dark brown (10YR 3/3) loam; moderate medium subangular blocky structure; very friable; many medium roots throughout and many fine roots throughout and many coarse roots throughout; fine tubular pores; 2 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; abrupt smooth boundary. Lab sample # 17N02710 A2--12 to 37 centimeters (4.7 to 14.6 inches); dark brown (10YR 3/3) loam; moderate medium subangular blocky structure; very friable; many medium roots throughout and many fine roots throughout and many coarse roots throughout; fine tubular pores; 2 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; abrupt smooth boundary. Lab sample # 17N02710

Bt1--37 to 62 centimeters (14.6 to 24.4 inches); brown (7.5YR 4/4) clay loam; moderate medium subangular blocky structure; friable; few medium roots throughout and few fine roots throughout; fine tubular pores; 1 percent fine prominent irregular 5YR 2.5/1), moist, manganese coatings Throughout; 2 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; abrupt smooth boundary. Lab sample # 17N02711 Bt1--37 to 62 centimeters (14.6 to 24.4 inches); brown (7.5YR 4/4) clay loam; moderate medium subangular blocky structure; friable; few medium roots throughout and few fine roots throughout; fine tubular pores; 1 percent fine prominent irregular 5YR 2.5/1), moist, manganese coatings Throughout; 2 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; abrupt smooth boundary. Lab sample # 17N02711

Bt2--62 to 89 centimeters (24.4 to 35.0 inches); strong brown (7.5YR 4/6) clay loam; weak medium subangular blocky structure; friable; few medium roots throughout and common fine roots throughout; fine tubular pores; 1 percent fine prominent irregular 5YR 2.5/1), moist, manganese coatings Throughout; 3 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated . Lab sample # 17N02712 Bt2--62 to 89 centimeters (24.4 to 35.0 inches); strong brown (7.5YR 4/6) clay loam; weak medium subangular blocky structure; friable; few medium roots throughout and common fine roots throughout; fine tubular pores; 1 percent fine prominent irregular 5YR 2.5/1), moist, manganese coatings Throughout; 3 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated . Lab sample # 17N02712

PEDON DESCRIPTION -- NEON Site GRSM

Print Date: Oct 11 2017
Description Date: Oct 17 2016
Describer: Tiffany Smith
NEON Plot ID: GRSM_025
Site ID: S2016TN155025

Pedon ID: S2016TN155025

Site Note: Lat/Long coordinates were to the SW corner. Site had two (2) centroid pins (slender rod, about 3 feet tall with the upper portion painted blue). Initial centroid located was incorrect, did not match with pin coordinates. The second centroid matched up with pin information.

Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0528
Soil Name as Described/Sampled: Oconaluftee
Classification: Fine-loamy, isotic, frigid Typic Humudepts

Soil Name as Correlated:

Classification:
Pedon Type: taxadjunct to the series
Pedon Purpose: laboratory sampling site
Taxon Kind: taxadjunct
Associated Soils: Anakeesta, Luftee, Oconaluftee
Physiographic Division: Appalachian Highlands
Physiographic Province: Blue Ridge Province
Physiographic Section: Southern section
State Physiographic Area:

Local Physiographic Area: Great Smoky Mountains

Geomorphic Setting: on backslope of side slope of mountainflank, upper third of 2 mountain slope
on backslope of side slope of mountainflank, upper third of 1 mountains
Upslope Shape: linear

Cross Slope Shape: convex

Particle Size Control Section: 25 to 58 cm.

Description origin: NASIS

Country:
State: Tennessee
County: Sevier
MLRA: 130B -- Southern Blue Ridge
Soil Survey Area: SS0130 -- Blue Ridge MLRA Soil Survey
TN640 -- Great Smoky Mountains National Park, Tennessee and North Carolina
6-WAY -- Waynesville, North Carolina
Map Unit: BpF -- Breakneck-Pullback complex, 30 to 95 percent slopes, very rocky

Pit Location:

Quad Name: Clingmans Dome, North Carolina
Std Latitude: 35.5897222
Std Longitude: -83.4757778

Latitude: 35 degrees 35 minutes 23.00 seconds north
Longitude: 83 degrees 28 minutes 32.80 seconds west
Datum: WGS84
UTM Zone: 17
UTM Easting: 275691 meters
UTM Northing: 3941265 meters

Primary Earth Cover: Tree cover
Secondary Earth Cover: Conifers
Existing Vegetation:
Parent Material: coarse-loamy creep deposits derived from metasedimentary rock over coarse-loamy residuum weathered from metasedimentary rock
Bedrock Kind: Metasedimentary rock
Metasedimentary rock

Bedrock Depth:

Bedrock Hardness: strongly cemented
moderately cemented

Bedrock Fracture Interval: 45 to less than 100 centimeters
10 to less than 45 centimeters

Surface Fragments: 0.1 percent flat subangular very strongly cemented 380- to 600-millimeter Metasedimentary rock fragments

Description database: KSSL

Diagnostic Features: ochric epipedon 6 to 15 cm.
cambic horizon 15 to 58 cm.
paralithic contact 58 to 80 cm.

Top Depth (cm)	Bottom Depth (cm)	Restriction Kind	Restriction Hardness
58	80	bedrock, paralithic	Moderately cemented

Cont. Site ID: S2016TN155025 **Pedon ID:** S2016TN155025

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
25.0	1,785.0	235	12.7	21.9	3.4	1,428	165	well		

Oe--0 to 6 centimeters (0.0 to 2.4 inches); moderately decomposed plant material; Moderately decomposed organic litter and root mat; abrupt smooth boundary.; abrupt smooth boundary. Lab sample # 17N02713 Oe--0 to 6 centimeters (0.0 to 2.4 inches); moderately decomposed plant material; Moderately decomposed organic litter and root mat; abrupt smooth boundary.; abrupt smooth boundary. Lab sample # 17N02713

A--6 to 15 centimeters (2.4 to 5.9 inches); very dark grayish brown (10YR 3/2) silt loam; moderate fine subangular blocky structure; very friable, nonsticky, slightly plastic; common very fine roots throughout and common fine roots throughout; common very fine pores; 1 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; clear wavy boundary. Lab sample # 17N02714 A--6 to 15 centimeters (2.4 to 5.9 inches); very dark grayish brown (10YR 3/2) silt loam; moderate fine subangular blocky structure; very friable, nonsticky, slightly plastic; common very fine roots throughout and common fine roots throughout; common very fine pores; 1 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; clear wavy boundary. Lab sample # 17N02714

Bw--15 to 34 centimeters (5.9 to 13.4 inches); dark brown (10YR 3/3) loam; moderate fine subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots throughout; few very fine pores; 2 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; clear wavy boundary. Lab sample # 17N02715 Bw--15 to 34 centimeters (5.9 to 13.4 inches); dark brown (10YR 3/3) loam; moderate fine subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots throughout; few very fine pores; 2 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; clear wavy boundary. Lab sample # 17N02715

BC--34 to 58 centimeters (13.4 to 22.8 inches); dark yellowish brown (10YR 4/4) sandy loam; 1 percent fine prominent (7.5YR 5/8) and 10 percent fine distinct (10YR 5/2) mottles; weak fine subangular blocky structure; friable, nonsticky, nonplastic; 4 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; clear smooth boundary. Lab sample # 17N02716 BC--34 to 58 centimeters (13.4 to 22.8 inches); dark yellowish brown (10YR 4/4) sandy loam; 1 percent fine prominent (7.5YR 5/8) and 10 percent fine distinct (10YR 5/2) mottles; weak fine subangular blocky structure; friable, nonsticky, nonplastic; 4 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; clear smooth boundary. Lab sample # 17N02716

Cr--58 to 80 centimeters (22.8 to 31.5 inches); bedrock; massive; . Cr--58 to 80 centimeters (22.8 to 31.5 inches); bedrock; massive; .

PEDON DESCRIPTION -- NEON Site GRSM

Print Date: Oct 11 2017
Description Date: Oct 11 2016
Describer: Mike Jones
NEON Plot ID: GRSM_026
Site ID: S2016TN155026

Pedon ID: S2016TN155026

Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0529
Soil Name as Described/Sampled: Tsali
Classification: Loamy, mixed, subactive, mesic, shallow Typic Hapludults

Soil Name as Correlated:

Classification:
Pedon Type: correlates to named soil
Pedon Purpose: laboratory sampling site
Taxon Kind: series
Associated Soils: Brasstown, Junaluska, Lonon, Santeetlah, Snowbird, Soco, Spivey, Stecoah
Physiographic Division: Appalachian Highlands
Physiographic Province: Blue Ridge Province

Physiographic Section: Southern section
State Physiographic Area:

Local Physiographic Area: Great Smoky Mountains
Geomorphic Setting: on backslope of side slope of mountainflank, center third of 2 mountain slope
on backslope of side slope of mountainflank, center third of 1 mountains
Upslope Shape: convex
Cross Slope Shape: linear

Particle Size Control Section: 11 to 37 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon 9 to 11 cm.
argillic horizon 11 to 37 cm.
paralithic contact 37 to 80 cm.

Country:
State: Tennessee
County: Sevier
MLRA: 130B -- Southern Blue Ridge
Soil Survey Area: SS0130 -- Blue Ridge MLRA Soil Survey
TN640 -- Great Smoky Mountains National Park, Tennessee and North Carolina
6-WAY -- Waynesville, North Carolina
Map Unit: JtD -- Junaluska-Tsali complex, 15 to 30 percent slopes
Pit Location:
Quad Name: Wear Cove, Tennessee
Std Latitude: 35.6834722
Std Longitude: -83.6442778

Latitude: 35 degrees 41 minutes 0.50 seconds north
Longitude: 83 degrees 38 minutes 39.40 seconds west
Datum: WGS84
UTM Zone: 17
UTM Easting: 260701 meters
UTM Northing: 3952064 meters

Primary Earth Cover: Tree cover
Secondary Earth Cover: Intermixed conifers and hardwoods
Existing Vegetation:
Parent Material: fine-loamy creep deposits derived from metasedimentary rock over fine-loamy residuum weathered from metasedimentary rock and/or fine-loamy residuum weathered from phyllite
Bedrock Kind: Metasedimentary rock
Bedrock Depth:
Bedrock Hardness: strongly cemented
Bedrock Fracture Interval: 45 to less than 100 centimeters
Surface Fragments:
Description database: KSSL

Top Depth (cm)	Bottom Depth (cm)	Restriction Kind	Restriction Hardness
37	80	bedrock, paralithic	Moderately cemented

Cont. Site ID: S2016TN155026 **Pedon ID:** S2016TN155026

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
25.0	566.0	260	12.7	21.9	3.4	1,505	165	well		

Oe--0 to 9 centimeters (0.0 to 3.5 inches); moderately decomposed plant material; Oe--0 to 1 inch; moderately decomposed organic mat. ; clear smooth boundary. Lab sample # 17N02717

A--9 to 11 centimeters (3.5 to 4.3 inches); dark brown (7.5YR 3/2) exterior loam; weak fine granular, and weak very fine granular structure; very friable, nonsticky, nonplastic; many medium roots throughout and many coarse roots throughout; 4 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Metasandstone is not listed as an option in "Pedon Horizon Fragments". Metasandstone needs to be added. Also, possibly adding "Metasandstone and Phyllite".; The A horizon is too thin to sample.; Converted measured %Wt to %Vol was not used for this site. Fragments were estimated ; clear smooth boundary. Lab sample # 17N02718

Bt1--11 to 24 centimeters (4.3 to 9.4 inches); strong brown (7.5YR 4/6) exterior channery loam; weak fine subangular blocky, and weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; many medium roots throughout and common fine roots throughout and many coarse roots throughout; 4 percent flat subangular very strongly cemented 150 to 380-millimeter Metasedimentary rock fragments and 18 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Metasandstone is not listed as an option in "Pedon Horizon Fragments". Metasandstone needs to be added. Also, possibly adding "Metasandstone and Phyllite".; Increase of clay in the fine earth.; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 33%, channers & Flags. Converted to 18% Channers & 4% Flags. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B".; clear wavy boundary. Lab sample # 17N02719

Bt2--24 to 37 centimeters (9.4 to 14.6 inches); strong brown (7.5YR 4/6) exterior channery clay loam; weak medium subangular blocky, and weak fine subangular blocky structure; friable, slightly sticky, moderately plastic; many medium roots throughout and few fine roots throughout; 1 percent flat subangular very strongly cemented 150 to 380-millimeter Metasedimentary rock fragments and 15 percent flat subangular very strongly cemented 2 to 150-millimeter Metasedimentary rock fragments; Metasandstone is not listed as an option in "Pedon Horizon Fragments". Metasandstone needs to be added. Also, possibly adding "Metasandstone and Phyllite".; Converted measured %Wt to %Vol Coarse fragment Total Weight for this horizon was 24%, channers & Flags. Converted to 15% Channers & 1% Flags. %Wt to %Vol using "Rock Fragment Volume to Weight Conversion Curve. Guide Sheet B".; clear wavy boundary. Lab sample # 17N02720

Cr--37 to 80 centimeters (14.6 to 31.5 inches); bedrock; structureless massive; Cr--37 to 80 inches; weathered, moderately cemented, thinly bedded metasedimentary rock; few medium thin seams of yellowish red (5YR 5/6) loam in cracks. ; Few medium thin seams of yellowish red (5YR 5/6) loam in cracks.; Weathered and fractured, interbedded phyllite and metasandstone bedrock that can be ripped. .